

A/E	ARCHITECT/ENGINEER	I	MOMENT OF INERTIA
A.B.	ANCHOR BOLT	IBC	INTERNATIONAL BUILDING CODE
A.B.C.	AGGREGATE BASE COURSE	ID.	IDENTIFICATION, INSIDE DIAMETER,
A.C.I.	AMERICAN CONCRETE INSTITUTE	INCL.	INCLUDED
ADD'L	ADDITIONAL	INFO.	INFORMATION
ADDN.	ADDITION	INTERIOR	INTERIOR
ADH.	ADHESIVE	L	ANGLE
ADJ.	ADJACENT, ADJOINING, OR ADJUSTABLE	LBS.	POUND
A.F.F.	ABOVE FINISHED FLOOR	L.F.	LINEAR FEET (FOOT)
A.F.G.	ABOVE FINISHED GRADE	LH	LEFT HAND
A.F.S.	ABOVE FINISHED SLAB	LIN.	LINEAR
AGGR.	AGGREGATE	LLH	LONG LEG HORIZONTAL
AHR.	ANCHOR	LLV	LONG LEG VERTICAL
ASCE	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LT. GA.	LIGHT GAGE
ALT.	ALTERNATE	LT. WT.	LIGHTWEIGHT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LWC	LIGHTWEIGHT CONCRETE
APA	AMERICAN PLYWOOD ASSOCIATION	LYR.	LAYER
APPD.	APPROVED		
APPROX.	APPROXIMATE	MAINT.	MAINTENANCE
AR	AS REQUIRED	MANU.	MANUAL
ARCH.	ARCHITECT	MATL.	MATERIAL
ASI	ARCHITECT'S SUPPLEMENTAL INSTRUCTION	MAX.	MAXIMUM
ASPH.	ASPHALT	M.B.	MACHINE BOLT
ASSN.	ASSOCIATION	MECH.	MECHANICAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MEZZ.	MEZZANINE
ATCH.	ATTACHMENT	MFG.	MANUFACTURED
AWS	AMERICAN WELDING SOCIETY	MFG.	MANUFACTURING
		MFR.	MANUFACTURER
B PL.	BASE PLATE	MFR. REC.	MANUFACTURER'S RECOMMENDATION
BLDG.	BUILDING	MD.	MIDDLE
BM.	BEAM	MIN.	MINIMUM
BOT.	BOTTOM	MISC.	MISCELLANEOUS
B.O.	BOTTOM OF	MM.	MILLIMETER
BRG.	BRACING	MTL.	METAL
BRDG.	BRIDGING		
BRG.	BEARING	N/A	NOT APPLICABLE
BRG. PL.	BEARING PLATE	NOM.	NOMINAL
BTWN.	BETWEEN	NTS	NOT TO SCALE
BUR.	BUILT-UP ROOFING	N.S.	NEAR SIDE
C CONC.	CAST CONCRETE	O.C.	ON CENTER
C TO C	CENTER TO CENTER	O.D.	OUTSIDE DIAMETER OUTSIDE DIMENSION
C	CONSTRUCTION DOCUMENTS	OPH	OPPOSITE HAND
CMF	COLD-FORMED METAL FRAMING	OPN.	OPENING
CP	CAST-IN-PLACE	OPP.	OPPOSITE
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT	OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
CL	CENTER LINE		
CLR.	CLEAR		
CMU	CONCRETE MASONRY UNIT	PAR.	PARALLEL OR PARAPET
COL.	COLUMN	P.C.C.	PRECAST CONCRETE
CONC.	CONCRETE	PERF.	PERFORATED
CONNL.	CONNECTION	PLYWD.	PLYWOOD
CONSTR.	CONSTRUCTION	PREP.	PREPARATION
CONT.	CONTINUE	PSF	POUNDS PER SQUARE FOOT
CONTR.	CONTRACTOR	PSI	POUNDS PER SQUARE INCH
COORD.	COORDINATE		
COTR.	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE	QTY.	QUANTITY
CRS	COLD ROLLED STEEL		
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	REF.	REFERENCE
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE	REINF.	REINFORCEMENT, REINFORCE
CSK.	COUNTER SUNK	REQ.	REQUIRED
		RFI	REQUEST FOR INFORMATION
D	DEPTH OR PENNY (NAIL)		
DBL.	DOUBLE	SCHED.	SCHEDULE
DEL.	DELETE	SCHEM.	SCHEMATIC
DEMO.	DEMOLITION	SECT.	SECTION
DEPT.	DEPARTMENT	S.F.	SQUARE FOOT (FEET)
DTL.	DETAIL	SHT.	SHEET
DIA.	DIAMETER	SHTG.	SHEATHING
DIAG.	DIAGONAL	SIM.	SIMILAR
DIFF.	DIFFERENCE	SJI	STEEL JOIST INSTITUTE
DIM.	DIMENSION	SOG	SLAB ON GRADE
DIR.	DIRECTION	SPEC.	SPECIFICATION
DIST.	DISTANCE	SO.	SQUARE
DIV.	DIVIDE OR DIVISION	SO. IN.	SQUARE INCH
DL	DEAD LOAD	STD.	STANDARD
DOC.	DOCUMENT	STL. JST.	STEEL JOIST
D.F.	DOUGLAS FIR	STL. LNTL.	STEEL LINTEL
DWG.	DRAWING	STL. PL.	STEEL PLATE
EA.	EACH	STL. RF.	STEEL ROOF DECK
ELEV.	ELEVATION	STL. TR.	STEEL TRUSS
ENGR.	ENGINEER	STR.	STRINGERS
E.N.	EDGE NAILING	STRUCT.	STRUCTURAL
EQ.	EQUAL	STRUCT. STL.	STRUCTURAL STEEL
EOL SP.	EQUALLY SPACED	SUB	SUBSTITUTE
EQUIP.	EQUIPMENT	SURF.	SURFACE
ETC	AND SO FORTH OR ET CETERA	SUSP.	SUSPEND
E.W.	EACH WAY	SUSP. CLG.	SUSPENDED CEILING
EXIST.	EXISTING	SYM.	SYMBOL
EXP.	EXPANSION OR EXPOSED		
EXT.	EXTERIOR		
FAS.	FASCIA	T&G	TONGUE AND GROOVE
FDIN.	FOUNDATION	T&M	TIME AND MATERIALS
F.F. EL.	FINISH FLOOR ELEVATION	TB	THROUGH BOLT OR TOWEL BAR
FIG.	FIGURE	TECH.	TECHNICAL
FIL.	FILLET	TEMP.	TEMPERATURE OR TEMPORARY
FIN.	FINISH	THK.	THICKNESS
FIN. FLR.	FINISH FLOOR	THRU.	THROUGH
FIN. GR.	FINISH GRADE	THROUGHOUT	THROUGHOUT
FLR.	FLOOR	T.O. F.	TOP OF FOOTING
FLR. FIN.	FLOOR FINISH	T.O. FM.	TOP OF BEAM
F.O.C.	FACE OF CONCRETE OR FACE OF CURB	T.O.M.	TOP OF MASONRY
F.O.S.	FACE OF SLAB OR FACE OF STUD	T.O.P.	TOP OF PARAPET
F.O.W.	FACE OF WALL	T.O.S.	TOP OF STEEL
FRMC.	FRAMING	T.O.W.	TOP OF WALL
FT.	FEET OR FOOT	TYP.	TYPICAL
FTG.	FOOTING		
F.S.	FACE SIDE	VAR.	VARIABLE
GA.	GAUGE OR GYPSUM ASSOCIATION	VERT.	VERTICAL
GALV.	GALVANIC OR GALVANIZED	VEST.	VESTIBULE
GALV. STL.	GALVANIZED STEEL	VF	VERIFY IN FIELD
G.C.	GENERAL CONTRACTOR	VNR.	VENER
GLU LAM	GLUED LAMINATED WOOD	V.R.	VAPOR RETARDER
GSB	GYPSUM SHEATHING BOARD		
GT.			

1. DESIGN INFORMATION AND LOADS USED: 2009 INTERNATIONAL BUILDING CODE	
A. FLOOR DEAD LOAD	15 PSF
B. FLOOR DEAD LOAD	15 PSF
C. OCCUPANCY CATEGORY	IX
D. SNOW LOAD	
GROUND SNOW LOAD, P_g	20 PSF
SNOW EXPOSURE FACTOR, C_e	1.0
SNOW IMPORTANCE FACTOR, I	1.1
THERMAL FACTOR, C_t	1.0
FLAT ROOF SNOW LOAD	25 PSF
E. FLOOR LIVE LOAD	80 PSF
F. WIND LOAD:	
BASIC WIND SPEED	90 MPH
WIND IMPORTANCE FACTOR	1.15
WIND EXPOSURE	C
INTERNAL PRESSURE COEF. GCP_i	+/- 0.18
G. SEISMIC IMPORTANCE FACTOR, I_s	1.5
MAPPED SPECTRAL RESPONSE ACCEL.	0.31g
MAPPED SPECTRAL RESPONSE ACCEL., S_1	0.106g
SITE CLASS	D
F_a	1.5
F_v	2.38
SPECTRAL RESPONSE COEFFICIENT, S_{ds}	0.32
SPECTRAL RESPONSE COEFFICIENT, S_{d1}	0.2
SEISMIC DESIGN CATEGORY	D
BASIC SEISMIC FORCE RESISTING SYSTEM	LIGHT-FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE EQUIVALENT LATERAL FORCE
ANALYSIS PROCEDURE	6 1/2
RESPONSE MODIFICATION FACTOR, R	6 1/2
SEISMIC RESPONSE COEFFICIENT USED FOR DESIGN C_s	0.10
2. SPECIAL INSPECTION:	
A. A SPECIAL INSPECTOR SHALL BE EMPLOYED BY THE CONTRACTOR. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.	
B. ALL SPECIAL INSPECTION SHALL BE IN ACCORDANCE WITH THE 2006 INTERNATIONAL BUILDING CODE.	
C. INSPECTION OF TWENTY PERCENT OF AN OPERATION OR PROCEDURE SHALL BE CONSIDERED ADEQUATE FOR PERIODIC SPECIAL INSPECTIONS.	
D. CONCRETE	
ITEM	FREQUENCY OF INSPECTION
I. INSPECTION OF REINFORCING STEEL, INCLUDING PLACEMENT.	PERIODIC
II. INSPECTION OF REINFORCING STEEL WELDING	CONTINUOUS
III. INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE.	CONTINUOUS
IV. VERIFY USE OF REQUIRED DESIGN MIX.	PERIODIC
V. SAMPLING FRESH CONCRETE AND PERFORMING SLUMP, AIR CONTENT AND DETERMINING THE TEMPERATURE OF FRESH CONCRETE AT THE TIME OF MAKING SPECIMENS FOR STRENGTH TESTS.	CONTINUOUS
VI. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC
VII. POST-INSTALLED ADHESIVE ANCHORS.	CONTINUOUS
E. STRUCTURAL STEEL:	
ITEM	FREQUENCY OF INSPECTION
I. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS: IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC
II. INSPECTION OF HIGH-STRENGTH BOLTING: BEARING-TYPE CONNECTIONS. SLIP-CRITICAL CONNECTIONS.	PERIODIC
III. MATERIAL VERIFICATION OF STRUCTURAL STEEL: IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC
IV. MANUFACTURER'S CERTIFICATE SHALL TEST REPORTS REQUIRED.	PERIODIC
V. MATERIAL VERIFICATION OF WELD FILLER MATERIALS: IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC
VI. INSPECTION OF WELDING: COMPLETE AND PARTIAL PENETRATION GROOVE WELDS MULTI-PASS FILLET WELDS SINGLE-PASS FILLET WELDS > 5/16 INCH SINGLE-PASS FILLET WELDS < 5/16 INCH FLOOR AND DECK WELDS	CONTINUOUS
VII. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC
VIII. DETAILS SUCH AS BRACING AND STIFFENING.	PERIODIC
MEMBER LOCATIONS	PERIODIC
APPLICATION OF JOINT DETAILS AT EACH CONNECTION	PERIODIC
F. COLD FORMED METAL FRAMING	
ITEM	FREQUENCY OF INSPECTION
I. WELDING	PERIODIC
3. FOUNDATION:	
A. AN ALLOWABLE NET SOIL BEARING CAPACITY OF 1,500 PSF WAS USED IN THE DESIGN OF ALL FOOTINGS, PER 2009 IBC TABLE 1804.2.	
B. FOOTINGS SHALL BE SUPPORTED ON 1.5 FT [457mm] OF COMPACTED STRUCTURAL FILL MATERIAL WRAPPED IN FILTER FABRIC, REINFORCED WITH TWO LAYERS OF APPROVED GEOTEXTILE.	
C. THE GEOTEXTILE REINFORCED FILL ZONE SHALL BEAR ON COMPACTED, NATIVE, POORLY GRADED SAND WITH GRAVEL OR COMPACTED STRUCTURAL FILL FOUND ON THIS STRATUM. GEOTEXTILE MUST EXTEND A MINIMUM OF ONE FOOT BEYOND THE FOOTING LINE ON ALL SIDES. COORDINATE WITH GEOTECH REPORT FOR GEOTEXTILE AND STRUCTURAL FILL REQUIREMENTS.	
D. FOR PIPING OR OTHER UTILITIES ALONGSIDE OR PENETRATING THRU FOUNDATION WALLS RE: S3.1-2	
E. PROVIDE DAMPROOFING AT EXTERIOR FOUNDATION WALLS AT EXTERIOR FACE BELOW FINISHED GRADE.	
4. CONCRETE:	
A. THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS 3,500 PSI	
B. MINIMUM CLEAR COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:	
1. CONCRETE PLACED DIRECTLY AGAINST EARTH - 3 [76mm] INCHES.	
2. FORMED SURFACES: #5 BARS OR SMALLER - 1 1/2 [38mm] INCHES.	
#6 BARS OR LARGER - 2 [51mm] INCHES.	
3. STRUCTURAL SLABS - 1 [25mm] INCH.	
C. SAWN CONCRETE JOINTS SHALL BE MADE AS SOON AS POSSIBLE WITHOUT DAMAGE TO SURFACE. FILLING OF JOINTS SHALL BE DELAYED AS LONG AS POSSIBLE TO ALLOW MAX. SHRINKAGE TO OCCUR IN SLABS. CW/ DETAIL S3.1-1	
D. ALL REINFORCING CORNERS SHALL HAVE ADDITIONAL REINFORCEMENT AS SHOWN AT DETAIL S3.2-1	
E. PROVIDE (2) #3 BARS, WITH 2'-0" [610mm] PROJECTION ON ALL SIDES OF ALL OPENINGS IN CONCRETE. UNL.O.	
F. ALL EMBEDDED ANCHOR BOLTS SHALL BE HEADED BOLTS OF MATERIAL CONFORMING TO SPECIFICATIONS UNLESS NOTED OTHERWISE.	
G. CONTRACTOR SHALL PROVIDE FORMS AND BRACING AS REQUIRED FOR ELEVATED SLABS AT EXPOSED EDGES AND OPENINGS TO MAINTAIN EDGES STRAIGHT AND PLUMB AND TRUE.	
H. REINFORCEMENT IN FOOTINGS & STEM WALLS SHALL BE CONTINUOUS AROUND CORNERS & INTERSECTIONS. RE: S3.1-4	
I. POST-INSTALLED ADHESIVE ANCHORS	
1. ADHESIVE FOR ANCHORS TO BE "SIMPSON" SET-XP EPOXY ADHESIVE SYSTEM	
2. ANCHORS TO BE A36 THREADED ROD OR EQUAL.	
3. MINIMUM EMBEDMENT LENGTH SHALL BE AS FOLLOWS UNLESS DETAILED OTHERWISE.	
ANCHOR DIA. (IN.)	MIN. EMBEDMENT (IN.)
3/8"	3 1/2" [89mm]
1/2"	4 1/4" [108mm]
5/8"	5 [127mm]
3/4"	6 5/8" [168mm]
1"	8 1/4" [210mm]
1 1/8"	10 [254mm]
4. ALL ADHESIVE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.	
5. REINFORCING STEEL:	
A. ASTM A615, GRADE 60. BARS TO BE WELDED SHALL BE ASTM A708, GRADE 60.	
B. MIN. LENGTH OF LAPPED SPLICES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE. STAGGER SPLICES IN WALLS SO THAT NO TWO ADJACENT BARS ARE SPLICED IN THE SAME LOCATION UNLESS SHOWN OTHERWISE. MAKE ALL BARS CONTINUOUS AROUND CORNERS OR PROVIDE CORNER BARS OF EQUAL SIZE AND SPACING.	
BAR SIZE	SPLICE LENGTH
#3	18" [457mm]
#4	24" [610mm]
#5	30" [762mm]
#6	36" [914mm]
#7	62" [1575mm]
#8	71" [1803mm]
#9	76" [1930mm]
C. FORM TIES SHALL BE EITHER THREADED OR THE SNAP-OFF TYPE SO THAT NO METAL WILL BE LEFT WITHIN ONE INCH OF THE WALL SURFACE. RECESSES ARE TO BE FILLED AND POINTED W/ MORTAR.	
D. PROVIDE BAR SUPPORTS AND SPACERS FOR REINFORCEMENT. PROVIDE CHAIRS W/ 22 GA. SAND PAPER OR PRECAST BLOCKS FOR ALL REINFORCING OF SLABS W/ GRADE AND DECK CHAIRS FOR REINFORCEMENT IN SLABS OVER STEEL DECKING. SECURELY THE REINFORCEMENT TO SUPPORTS.	
E. DO NOT WELD ANY REINFORCEMENT UNLESS SPECIFICALLY DETAILED.	
F. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, Fy=25,000 PSI.	
6. STRUCTURAL STEEL:	
A. STEEL DESIGNATIONS: WIDE FLANGE SHAPES (BEAMS & COLUMNS)..... ASTM A992 OTHER ROLLED SHAPES & MISCELLANEOUS PLATE..... ASTM A36 (U.N.O.) MOMENT FRAME CONNECTION CONTINUITY AND WEB DOUBLER PLATES..... ASTM A572 HOLLOW STRUCTURAL SECTIONS (HSS)..... ASTM A500, GRADE 'B'	

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